

## RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.

Application Serial Number:

10/585,503

Source:

THOR

Date Processed by STIC:

7/19/06

# ***ENTERED***



IFWP

## RAW SEQUENCE LISTING

DATE: 07/19/2006

PATENT APPLICATION: US/10/585,503

TIME: 08:22:58

Input Set : A:\265.00450101.ST25.txt

Output Set: N:\CRF4\07192006\J585503.raw

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3 <110> APPLICANT: Hamill, Owen P.
4      Maroto, Rosario
6 <120> TITLE OF INVENTION: MECHANOSENSITIVE ION CHANNELS AND METHODS OF USE
8 <130> FILE REFERENCE: 265.00450101
C--> 10 <140> CURRENT APPLICATION NUMBER: US/10/585,503
C--> 10 <141> CURRENT FILING DATE: 2006-07-07
10 <150> PRIOR APPLICATION NUMBER: 60/535,327
11 <151> PRIOR FILING DATE: 2004-01-09
13 <150> PRIOR APPLICATION NUMBER: PCT/US2005/000722
14 <151> PRIOR FILING DATE: 2005-01-10
16 <160> NUMBER OF SEQ ID NOS: 7
18 <170> SOFTWARE: PatentIn version 3.2
20 <210> SEQ ID NO: 1
21 <211> LENGTH: 35
22 <212> TYPE: PRT
23 <213> ORGANISM: Artificial
25 <220> FEATURE:
26 <223> OTHER INFORMATION: Channel blocker GsMTx-4 (Grammostola spatulata venom 4 kDa
27      peptide)
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39 Ser Ser Gly
40      35
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44 <211> LENGTH: 759
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55      20      25      30
58 Ala Leu Lys Asp Val Arg Glu Val Lys Glu Glu Asn Thr Leu Asn Glu
59      35      40      45
62 Lys Leu Phe Leu Leu Ala Cys Asp Lys Gly Asp Tyr Tyr Met Val Lys
63 50      55      60
66 Lys Ile Leu Glu Glu Asn Ser Ser Gly Asp Leu Asn Ile Asn Cys Val
67 65      70      75      80
70 Asp Val Leu Gly Arg Asn Ala Val Thr Ile Thr Ile Glu Asn Glu Asn
71      85      90      95

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74 Leu Asp Ile Leu Gln Leu Leu Leu Asp Tyr Gly Cys Gln Lys Leu Met
75          100          105          110
78 Glu Arg Ile Gln Asn Pro Glu Tyr Ser Thr Thr Met Asp Val Ala Pro
79          115          120          125
82 Val Ile Leu Ala Ala His Arg Asn Asn Tyr Glu Ile Leu Thr Met Leu
83          130          135          140
86 Leu Lys Gln Asp Val Ser Leu Pro Lys Pro His Ala Val Gly Cys Glu
87 145          150          155          160
90 Cys Thr Leu Cys Ser Ala Lys Asn Lys Lys Asp Ser Leu Arg His Ser
91          165          170          175
94 Arg Phe Arg Leu Asp Ile Tyr Arg Cys Leu Ala Ser Pro Ala Leu Ile
95          180          185          190
98 Met Leu Thr Glu Glu Asp Pro Ile Leu Arg Ala Phe Glu Leu Ser Ala
99          195          200          205
102 Asp Leu Lys Glu Leu Ser Leu Val Glu Val Glu Phe Arg Asn Asp Tyr
103          210          215          220
106 Glu Glu Leu Ala Arg Gln Cys Lys Met Phe Ala Lys Asp Leu Leu Ala
107 225          230          235          240
110 Gln Ala Arg Asn Ser Arg Glu Leu Glu Val Ile Leu Asn His Thr Ser
111          245          250          255
114 Ser Asp Glu Pro Leu Asp Lys Arg Gly Leu Leu Glu Glu Arg Met Asn
115          260          265          270
118 Leu Ser Arg Leu Lys Leu Ala Ile Lys Tyr Asn Gln Lys Glu Phe Val
119          275          280          285
122 Ser Gln Ser Asn Cys Gln Gln Phe Leu Asn Thr Val Trp Phe Gly Gln
123          290          295          300
126 Met Ser Gly Tyr Arg Arg Lys Pro Thr Cys Lys Lys Ile Met Thr Val
127 305          310          315          320
130 Leu Thr Val Gly Ile Phe Trp Pro Val Leu Ser Leu Cys Tyr Leu Ile
131          325          330          335
134 Ala Pro Lys Ser Gln Phe Gly Arg Ile Ile His Thr Pro Phe Met Lys
135          340          345          350
138 Phe Ile Ile His Gly Ala Ser Tyr Phe Thr Phe Leu Leu Leu Leu Asn
139          355          360          365
142 Leu Tyr Ser Leu Val Tyr Asn Glu Asp Lys Lys Asn Thr Met Gly Pro
143          370          375          380
146 Ala Leu Glu Arg Ile Asp Tyr Leu Leu Ile Leu Trp Ile Ile Gly Met
147 385          390          395          400
150 Ile Trp Ser Asp Ile Lys Arg Leu Trp Tyr Glu Gly Leu Glu Asp Phe
151          405          410          415
154 Leu Glu Glu Ser Arg Asn Gln Leu Ser Phe Val Met Asn Ser Leu Tyr
155          420          425          430
158 Leu Ala Thr Phe Ala Leu Lys Val Val Ala His Asn Lys Phe His Asp
159          435          440          445
162 Phe Ala Asp Arg Lys Asp Trp Asp Ala Phe His Pro Thr Leu Val Ala
163          450          455          460
166 Glu Gly Leu Phe Ala Phe Ala Asn Val Leu Ser Tyr Leu Arg Leu Phe
167 465          470          475          480
170 Phe Met Tyr Thr Thr Ser Ser Ile Leu Gly Pro Leu Gln Ile Ser Met

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171				485				490				495				
174	Gly	Gln	Met	Leu	Gln	Asp	Phe	Gly	Lys	Phe	Leu	Gly	Met	Phe	Leu	Leu
175				500				505				510				
178	Val	Leu	Phe	Ser	Phe	Thr	Ile	Gly	Leu	Thr	Gln	Leu	Tyr	Asp	Lys	Gly
179			515					520				525				
182	Tyr	Thr	Ser	Lys	Glu	Gln	Lys	Asp	Cys	Val	Gly	Ile	Phe	Cys	Glu	Gln
183			530				535					540				
186	Gln	Ser	Asn	Asp	Thr	Phe	His	Ser	Phe	Ile	Gly	Thr	Cys	Phe	Ala	Leu
187	545					550					555				560	
190	Phe	Trp	Tyr	Ile	Phe	Ser	Leu	Ala	His	Val	Ala	Ile	Phe	Val	Thr	Arg
191				565						570					575	
194	Phe	Ser	Tyr	Gly	Glu	Glu	Leu	Gln	Ser	Phe	Val	Gly	Ala	Val	Ile	Val
195				580				585						590		
198	Gly	Thr	Tyr	Asn	Val	Val	Val	Val	Ile	Val	Leu	Thr	Lys	Leu	Leu	Val
199			595				600					605				
202	Ala	Met	Leu	His	Lys	Ser	Phe	Gln	Leu	Ile	Ala	Asn	His	Glu	Asp	Lys
203		610					615					620				
206	Glu	Trp	Lys	Phe	Ala	Arg	Ala	Lys	Leu	Trp	Leu	Ser	Tyr	Phe	Asp	Asp
207	625					630					635				640	
210	Lys	Cys	Thr	Leu	Pro	Pro	Pro	Phe	Asn	Ile	Ile	Pro	Ser	Pro	Lys	Thr
211				645						650					655	
214	Ile	Cys	Tyr	Met	Ile	Ser	Ser	Leu	Ser	Lys	Trp	Ile	Cys	Ser	His	Thr
215			660						665					670		
218	Ser	Lys	Gly	Lys	Val	Lys	Arg	Gln	Asn	Ser	Leu	Lys	Glu	Trp	Arg	Asn
219			675				680					685				
222	Leu	Lys	Gln	Lys	Arg	Asp	Glu	Asn	Tyr	Gln	Lys	Val	Met	Cys	Cys	Leu
223		690					695					700				
226	Val	His	Arg	Tyr	Leu	Thr	Ser	Met	Arg	Gln	Lys	Met	Gln	Ser	Thr	Asp
227	705					710					715				720	
230	Gln	Ala	Thr	Val	Glu	Asn	Leu	Asn	Glu	Leu	Arg	Gln	Asp	Leu	Ser	Lys
231				725						730					735	
234	Phe	Arg	Asn	Glu	Ile	Arg	Asp	Leu	Leu	Gly	Phe	Arg	Thr	Ser	Lys	Tyr
235			740					745						750		
238	Ala	Met	Phe	Tyr	Pro	Arg	Asn									
239			755													
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245	<213> ORGANISM: Homo sapiens															
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250	ggctgggggc	ggggtcgggg	tggggcgccg	tgggggcccc	gcccccgctc	cctgggcctgc	120									
252	ccccttcgatg	ggccgcgatg	atggcgggccc	tgtaccgcag	cacggacctc	tcggggcgct	180									
254	cctcctcctc	cctgccttcc	tctccatcct	cttcctcgcc	gaacgaggtg	atggcgctga	240									
256	aggatgtgcg	ggaggtgaag	gaggagaata	cgctgaatga	gaagcttttc	ttgctggcgt	300									
258	gcgacaaggg	tgactattat	atggttaaaa	agattttgga	ggaaaacagt	tcaggtgact	360									
260	tgaacataaa	ttgcgtagat	gtgcttgga	gaaatgctgt	taccataact	attgaaaacg	420									
262	aaaacttgga	tatactgcag	cttcttttgg	actacggttg	tcagaaaacta	atggaacgaa	480									
264	ttcagaatcc	tgagtattca	acaactatgg	atgttgccac	tgctatttta	gctgctcatc	540									

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266	gtaacaacta	tgaaattctt	acaatgctct	taaaacagga	tgtatctcta	cccaagcccc	600
268	atgcagttgg	ctgtgaatgc	acatttgtgt	ctgcaaaaaa	caaaaaggat	agcctccggc	660
270	attccaggtt	tctgtttgat	atatatcgat	gtttggccag	tccagctcta	ataatgttaa	720
272	cagaggagga	tccaattctg	agagcatttg	aacttagtgc	tgatttaaaa	gaactaagtc	780
274	ttgtggaggt	ggaattcagg	aatgattatg	aggaactagc	ccggcaatgt	aaaatgtttg	840
276	ctaaggattt	acttgcacaa	gcccgggaatt	ctcgtgaatt	ggaagttatt	ctaaaccata	900
278	cgtctagtga	cgagcctctt	gacaaacggg	gattattaga	agaaagaatg	aattttaagtc	960
280	gtctaaaact	tgctatcaaa	tataaccaga	aagagtttgt	ctcccagttc	aactgccagc	1020
282	agttcctgaa	cactgttttg	tttggacaga	tgctcrggta	ccgacgcaag	cccacctgta	1080
284	agaagataat	gactgttttg	acagtaggca	tcttttgccc	agttttgtca	ctttgttatt	1140
286	tgatagctcc	caaattctcag	tttggcagaa	tcattcacac	accttttatg	aaatttatca	1200
288	ttcatggagc	atcatatttc	acattttctgc	tgttgcttaa	tctatactct	cttgtctaca	1260
290	atgaggataa	gaaaaacaca	atggggccag	cccttgaaag	aatagactat	cttctttatt	1320
292	tgtggattat	tgggatgatt	tggtcagaca	ttaaaagact	ctgggatgaa	gggttggaa	1380
294	actttttaga	agaattctcg	aatcaactca	gttttgtcat	gaattctctt	tatttggcaa	1440
296	cctttgccct	caaagtgggt	gtcacaaca	agtttcatga	ttttgctgat	cggaaggatt	1500
298	gggatgcatt	ccatcctaca	ctgggtggcag	aagggctttt	tgcatttgca	aatgttctaa	1560
300	gttatcttcg	tctctttttt	atgtatacaa	ccagctctat	cttgggtcca	ttacagattt	1620
302	caatgggaca	gatgtttaca	gatttttgga	aatttcttgg	gatgtttctt	cttgttttgt	1680
304	tttctttcac	aattggactg	acacaactgt	atgataaagg	atatacttca	aaggagcaga	1740
306	aggactgtgt	aggcatcttc	tgtgaacagc	aaagcaatga	taccttccat	tctgttcattg	1800
308	gcacctgctt	tgctttgttc	tggtatatatt	tctccttagc	gcatgtggca	atctttgtca	1860
310	caagatttag	ctatggagaa	gaactgcagt	cccttgtggg	agctgtcatt	gttggtacat	1920
312	acaatgtcgt	ggttgtgatt	gtgcttacca	aactgctggg	ggcaatgctt	cataaaagct	1980
314	ttcagttgat	agcaaatcat	gaagacaaa	aatggaagtt	tgctcgagca	aaattatggc	2040
316	ttagctactt	tgatgacaaa	tgtacgttac	ctccaccttt	caacatcatt	ccctcaccaa	2100
318	agactatctg	ctatatgatt	agtagcctca	gtaagtggat	ttgctctcat	acatcaaaag	2160
320	gcaaggtcaa	acggcaaaac	agtttaaaag	aatggagaaa	tttgaaacag	aagagagatg	2220
322	aaaactatca	aaaagtgatg	tgctgcctag	tgcatcgtaa	cttgacttcc	atgagacaga	2280
324	agatgcaaa	tacagatcag	gcaactgttg	aaaactaaa	cgaactgcgc	caagatctgt	2340
326	caaaattccg	aaatgaaata	agggattttc	ttggctttcg	gacttctaaa	tatgctatgt	2400
328	tttatccaag	aaattaaacca	ttttctaaat	catggagcga	ataattttca	ataacagatc	2460
330	caaaagacta	tattgcataa	cttgcaatga	aattaatgag	atatatatgt	aaataaagaa	2520
332	ttatgtaaaa	gccattcttt	aaaatatatta	tagcataaat	atatgttatg	taaagtgtgt	2580
334	atatagaatt	agttttttta	accttctgtt	agtggctttt	tgcagaagca	aaacagatta	2640
336	agtagataga	ttttgttagc	atgctgcttg	gttttcttac	ttagtgtctt	aaaatgtttt	2700
338	tttttatgtt	taagaggggc	agttataaat	ggacacattg	cccagaatgt	tttgtaaaat	2760
340	gaagaccagc	aaatgtaggc	tgatctcctt	cacaggatac	acttgaaata	tagaagttat	2820
342	gttttaata	tctctgtttt	aggagttcac	atatagttca	gcatttattg	tttaggagta	2880
344	taattttatt	ttatctaaaa	taatagtcta	ttttttcttt	tgtattttgt	tataatctta	2940
346	agcaacaaa	aaaaaacctt	aatatttgaa	tctatttatg	tctttcaatt	taaattcact	3000
348	tcagtttttg	ttattgtaat	atatttactt	ttacatgggt	ataatcactt	tatattttta	3060
350	atgttttttt	cacttaatat	tttatatata	catttccatg	tattgatgta	gttagtccac	3120
352	atttaaaatt	ttatagaatt	atatagtttt	tgaaaaatac	agtcagtaga	tgttttattt	3180
354	tttagctatt	cagttatgtt	tataagtttg	catagctact	tctcgacatt	tggtttgttt	3240
356	taattttttt	gtatcataat	agtcctattt	ttttttcaag	ttggagtga	tgtttttagt	3300
358	tttaagatag	ataggagaca	cttttttatt	acatgtagtc	acaacctgtt	ttgttttgtt	3360
360	aaaacatagg	aagtctcttt	aatgcaatga	tttgttttat	atttggacta	aggttcttga	3420
362	gcttatctcc	caaggtaactt	tccataattt	aacacagctt	ctataaaagt	gacttcatgc	3480

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Input Set : A:\265.00450101.ST25.txt

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364 ttacttgtgg atcattcttg ctgcttaaga tgaaaagcat tggtttttta aaattagaga 3540
366 ataaaaatat tatttaaatt tttggtgtgt tcacataaag ggatgtagct aaaatgtttt 3600
368 cataggctat tatatatctt cgcagcattt ccagttaaga ggatattagg tatataattc 3660
370 tcttcttaac cgaatgtcag atggtcttac gccacaggtt gcaggtaacc cttggtctgt 3720
372 aagcaccacc gatccaggga tcattgtcta aataggttac tattgtttgt ttcattctgc 3780
374 ttttgcattt ttatttttta atttccaaat tttaagtgtt ccctctttgg ggcaaattct 3840
376 tataaaaatg tttattgtaa agttatatat tttgtctacg atgggattat gcacttccca 3900
378 attgggattt tacatctgga tttttagtca ttctaaaaaa cacctaatta ttaaaacatt 3960
380 tatagagtgc ctactgtatg catgagttga gttgcttctg aggtacattt tgaatgacag 4020
382 catattgtaa gaaaaaaaaa ggtgaataaa atttgacatt agattataaa aaaaaaagg 4080
384 aattc 4085

387 <210> SEQ ID NO: 4
388 <211> LENGTH: 30
389 <212> TYPE: DNA
390 <213> ORGANISM: Artificial
392 <220> FEATURE:
393 <223> OTHER INFORMATION: Scrambled antisense oligonucleotide
395 <400> SEQUENCE: 4
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399 <210> SEQ ID NO: 5
400 <211> LENGTH: 12
401 <212> TYPE: PRT
402 <213> ORGANISM: Artificial
404 <220> FEATURE:
405 <223> OTHER INFORMATION: Epitope of MscCa polypeptide
407 <400> SEQUENCE: 5
409 Cys Val Gly Ile Phe Cys Glu Gln Gln Ser Asn Asp
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413 <210> SEQ ID NO: 6
414 <211> LENGTH: 15
415 <212> TYPE: PRT
416 <213> ORGANISM: Artificial
418 <220> FEATURE:
419 <223> OTHER INFORMATION: Epitope of MscCa polypeptide
421 <400> SEQUENCE: 6
423 Gln Leu Tyr Asp Lys Gly Tyr Thr Ser Lys Glu Gln Lys Asp Cys
424 1 5 10 15
427 <210> SEQ ID NO: 7
428 <211> LENGTH: 31
429 <212> TYPE: PRT
430 <213> ORGANISM: Artificial
432 <220> FEATURE:
433 <223> OTHER INFORMATION: Channel blocker GsMTx-1
435 <400> SEQUENCE: 7
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438 1 5 10 15
441 Glu Gly Leu Val Cys Arg Leu Trp Cys Lys Lys Lys Ile Glu Trp
442 20 25 30

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RAW SEQUENCE LISTING ERROR SUMMARY      DATE: 07/19/2006  
PATENT APPLICATION:    US/10/585,503      TIME: 08:22:59

Input Set : A:\265.00450101.ST25.txt  
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Invalid <213> Response:

Use of "Artificial" only as "<213> Organism" response is incomplete,  
per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:1,4,5,6,7

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/585,503

DATE: 07/19/2006

TIME: 08:22:59

Input Set : A:\265.00450101.ST25.txt

Output Set: N:\CRF4\07192006\J585503.raw

L:10 M:270 C: Current Application Number differs, Replaced Current Application No

L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date